

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-8 (Canceled).

Claim 9 (New): A method for synthesis of a routing, comprising:

a) obtaining parameters of:

different configurations of service variants and calculator variants and a percentage occurrence of the configurations, a sum of proportions of the configurations being considered equal to one,

cost characteristics of components stored and weighted as a function of their respective installation proportions,

partial or complete mapping of service variants onto calculator variants,

b) identifying valid routings;

c) evaluating routing cost of the valid routings for each configuration; and

d) determining the valid routing that minimizes the mean, weighted by the installation proportions of each configuration, of the routing costs for each configuration.

Claim 10 (New): A method according to claim 9, wherein a quality characteristic expressed as breakdowns per million is considered to compare respective measures of two candidate architectures for a product plan.

Claim 11 (New): A method according to claim 10, wherein one of the quality characteristics considered is weight.

Claim 12 (New): A method according to claim 9, further comprising automatically calculating a cost of assembly of electrical and electronic architecture as a function of a cost of assembly of a strand on a zone, of a cost of assembly of a connector on a zone boundary or on a zone, of a cost of assembly of a calculator on a zone, of a cost of assembly of a sensor or actuator on a zone, and of a cost of connection of a connector between zones or in a zone.

Claim 13 (New): A method according to claim 9, further comprising synthesizing optimal routing for all configurations, by repeating operations a) to d), criterion for minimization being a cost composed of:

an estimated recurrent cost of parts,
an estimate of quality cost in anticipation of the cost of repair per zone, this quality cost being increased by a constant cost depending on the zone and its ease of access,
an estimate of the cost of weight, taking into account mechanical wear and consumption related to an increase of the weight of the vehicle, and/or
an estimate of the cost of assembly.

Claim 14 (New): A method according to claim 9, applied to synthesis of the electrical architecture of a newly created product or to synthesis of an electrical architecture modified relative to a previous architecture.

Claim 15 (New): A manufactured article comprising:
a computer storage means having a computer program for synthesizing a routing, wherein the computer program comprises a code for execution of the method defined in claim 9.

Claim 16 (New): A device for synthesis of a routing, comprising:

a) means for obtaining parameters of:

different configurations of service variants and calculator variants and a percentage occurrence of the configurations, a sum of proportions of the configurations being considered equal to one,

cost characteristics of components stored and weighted as a function of their respective installation proportions,

partial or complete mapping of service variants onto calculator variants,

b) means for identifying valid routings;

c) means for evaluating routing cost of the valid routings for each configuration; and

d) means for determining the valid routing that minimizes the mean, weighted by the installation proportions of each configuration, of the routing costs for each configuration.